

Abstract Of The Invention

An unheated planar sensor element for determining the concentration of a gas component in a gas mixture, in particular the oxygen concentration in the exhaust gas of an internal combustion engine, has a sensor foil made of a solid electrolyte with an outer electrode exposed to the measuring gas, and an inner electrode exposed to a reference gas, as well as a reference-gas channel, which is covered by the sensor foil on one side and accommodates the inner electrode. To produce a small-volume, cost-effective unheated sensor element for use in small combustion engines having low power output yet sufficiently satisfactory measuring accuracy, the reference-gas channel is sealed on the underside by an additional sensor foil made of a solid electrolyte, and covered by an inner electrode lying inside the reference-gas channel and an outer electrode exposed to the measuring gas.